

What is claimed is:

- Sub B*
1. A composition comprising a fucosyl GM1 ganglioside or a oligosaccharide portion thereof conjugated to an immunogenic protein, an adjuvant, the amounts of such conjugated ganglioside and such adjuvant being effective to stimulate or enhance antibody production in a subject, and a pharmaceutically acceptable carrier.
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- Sub A2*
2. The composition of claim 1, wherein the composition comprises fucosyl GM1 ganglioside conjugated to Keyhole Limpet Hemocyanin or a derivative thereof conjugated to the ganglioside through the ceramide portion thereof.
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3. The composition of claim 2, wherein the ganglioside is conjugated to Keyhole Limpet Hemocyanin or derivative thereof.
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4. The composition of claim 1, wherein the adjuvant is a carbohydrate derived from the bark of a Quillaja saponaria Molina tree.
5. The composition of claim 4, wherein the carbohydrate is QS-21.

- Sub A<sup>3</sup>
6. The composition of claim 1, wherein the amount of the ganglioside is an amount between about 3  $\mu$ g to about 100  $\mu$ g.
- Sub B<sup>4</sup>
7. The composition of claim 5, wherein the amount of QS-21 is an amount between about 30  $\mu$ g to about 100  $\mu$ g.
8. The composition of claim 1, wherein the subject is a human.
9. A method of stimulating antibody production in a subject which comprises administering to the subject an effective amount of the composition of claim 1 to stimulate antibody production.
10. The method of claim 9, wherein the composition comprises fucosyl GM1 ganglioside conjugated to Keyhole Limpet Hemocyanin or a derivative thereof conjugated to the ganglioside through the ceramide portion thereof.
- Sub A<sup>4</sup>
11. A method of enhancing antibody production in a subject which comprises administering to the subject an effective amount of the composition of claim 1 to enhance antibody production.
12. A method of preventing cancer in a subject which

Sub A4

comprises administering to the subject an amount of the composition of claim 1 effective to prevent cancer.

5        13.      The method of claim 12, wherein the cancer is small cell lung cancer.

14.

A method of treating cancer in a subject which comprises administering to the subject an amount of the composition of claim 1 effective to treat cancer.

15.

The method of claim 14, wherein the cancer is small cell lung cancer.

Sub A5

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Add A6